

WHAT IS CLAIMED IS:

Sub A1 →

1. An optical module comprising:
 a substrate;
 an electric connection terminal provided on the substrate;
 an optical element provided on the substrate, the optical element being connected with the electric connection terminal; and
 one end of a slender light transmitter fixed on the substrate and optically coupled with the optical element.

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Sub B1 →

2. The optical module according to claim 1, wherein the substrate includes a first base member and a second base member, the first base member being provided with the electric connection terminal, and the second base member being provided with the optical element and the slender light transmitter.

Sub C1 →

3. The optical module according to claim 2, wherein the second base member is mounted on the first base member.

4. The optical module according to claim 1, further comprising a protector formed on the substrate for protecting the optical element and the slender light transmitter.

Sub A2 →

5. An optical module comprising:
 a substrate;
 an electric connection terminal provided on the substrate;

a planer lightwave circuit provided on the substrate, the planer lightwave circuit being connected with the electric connection terminal; and

an optical fiber partially provided on the substrate and optically coupled with the planer lightwave circuit.

6. The optical module according to claim 5, wherein the substrate including a first base member and a second base member, the first base member being provided with the electric connection terminal, and the second base member being provided with the planer lightwave circuit and the optical fiber.

7. A combination comprising:
a connector connectable with an electric circuit board; and
an optical module including:

a substrate;

an electric connection terminal provided on the substrate, the electric connection terminal electrically connectable with the connector;

an optical element provided on the substrate, the optical element being connected with the electric connection terminal; and

one end of a slender light transmitter fixed on the substrate and optically coupled with the optical element.

8. The combination according to claim 7, wherein the substrate includes a first base member and a second base member, the first base member being provided with the electric connection terminal, and the second base member being provided with the optical element and the slender light transmitter.

9. The combination according to claim 8, wherein:

the electric connection terminal is provided at a leading end of the first base member; and

the connector is formed with a reception space for receiving the leading end of the first base member, and is provided with an electric connection terminal connectable with the electric connection terminal on the first base member when the leading end of the first base member is placed in the reception space.

10. A combination according to claim 9, wherein the reception space is opened to the electric circuit board.

11. A combination according to claim 10, wherein the electric connection terminal provided in the connector has the form of a spring and is exposed to the reception space.

12. A combination according to claim 8, wherein a main body of the connector is made of a material having a thermal conductivity

higher than the first base member.

13. The combination according to claim 7, wherein:

the electric connection terminal is provided at a leading end of the substrate; and

the connector is formed with a reception space for receiving the leading end of the substrate, and is provided with an electric connection terminal exposed to the reception space and connectable with the electric connection terminal of the substrate when the leading end of the substrate is placed in the reception space.

14. A combination according to claim 13, wherein the reception space is opened to the electric circuit board.

15. A combination according to claim 14, wherein the electric connection terminal provided in the connector has the form of a spring and is exposed to the reception space.

16. A combination according to claim 7, wherein the optical module is further provided with a protector on the substrate for protecting the optical element and the slender light transmitter.

17. A combination according to claim 7, wherein a main body of the connector is made of a material having a thermal conductivity higher than the substrate.